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Citation for published version:

Ferns, G, Amaeshi, K & Lambert, A 2019, 'Drilling their own graves: How the European oil and gas supermajors avoid sustainability tensions through mythmaking', *Journal of Business Ethics*, vol. 158, no. 1, pp. 201-231. <https://doi.org/10.1007/s10551-017-3733-x>

Digital Object Identifier (DOI):

[10.1007/s10551-017-3733-x](https://doi.org/10.1007/s10551-017-3733-x)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Journal of Business Ethics

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Drilling their Own Graves: How the European Oil and Gas Supermajors Avoid Sustainability Tensions Through Mythmaking

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Received: 13 July 2017 / Accepted: 1 November 2017
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Abstract This study explores how paradoxical tensions between economic growth and environmental protection are avoided through organizational mythmaking. By examining the European oil and gas supermajors' "CEO-speak" about climate change, we show how mythmaking facilitates the disregarding, diverting, and/or displacing of sustainability tensions. In doing so, our findings further illustrate how certain defensive responses are employed: (1) *regression*, or retreating to the comforts of past familiarities, (2) *fantasy*, or escaping the harsh reality that fossil fuels and climate change are indeed irreconcilable, and (3) *projecting*, or shifting blame to external actors for failing to address climate change. By highlighting the discursive effects of enacting these responses, we illustrate how the European oil and gas supermajors self-determine their inability to substantively address the complexities of climate change. We thus argue that defensive responses are not merely a form of mismanagement as the paradox and corporate sustainability literature commonly suggests, but a strategic resource that poses serious ethical concerns given the imminent danger of issues such as climate change.

Keywords Paradox · Climate change · Organizational mythmaking · Discourse · Defensive responses · Corporate sustainability

I know some fear that the environmental issues threaten the whole future of the industry, [...] such fear can be paralysing and ultimately will be self-defeating because nothing will threaten the future of the industry more than ignoring reality
John Browne (1998c), former CEO of BP, speech at the World Energy Congress, Houston (TX)

Corporate sustainability confronts organizations with interdependent economic, social, and environmental concerns (Elkington 1998). While these three dimensions must be considered together in order to contribute to sustainable development (Gladwin et al. 1995), firms tend to discriminate against social and environmental concerns in favor of financial returns (McWilliams and Siegel 2000). Seeking to overcome this dilemma, scholars increasingly draw from paradox theory that considers organizations inherently conflictual sites and emphasizes that tensions, if properly harnessed, "can be powerful to enable peak performance" (Smith and Lewis 2011, p. 395). Applied to corporate sustainability, scholars argue that instead of ignoring tensions between economic, social, and environmental dimensions, firms should accept and embrace often contradictory demands simultaneously (Berger et al. 2007; Gao and Bansal 2013; Hahn et al. 2014, 2017). By foregoing temptation to ignore sustainability tensions, managers can confront complexity directly, thereby potentially transcending the otherwise stifling trichotomy of economic, social, and environmental dimensions (Hahn

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et al. 2015). This is commonly referred to as a “paradox approach” or “integrative view” on corporate sustainability (for overview see Van der Byl and Slawinski 2015).

This literature demonstrates the efficacy of a paradox perspective in confronting sustainability tensions, often highlighting its productive outcomes. However, it largely overlooks defensive responses through which firms aim to avoid sustainability tensions (Iivonen 2017), and the ethical implications therein. This oversight persists despite earlier studies explicitly cautioning against defensive reactions given potentially detrimental consequences for organizational survival (Leonard-Barton 1992; Sundaramurthy and Lewis 2003; Vince and Broussine 1996). Accordingly, as Schad et al. (2016, p. 39) note in their review of the past 25 years of paradox literature, there have been several calls to investigate “[how] defense mechanisms can cause good intentions to result in undesired outcomes.” We heed these calls by exploring the “defense mechanisms” or defensive responses that firms employ to avoid sustainability tensions, particularly focusing on responses toward climate change. In doing so, we analyzed “CEO-speak” (Amernic and Craig 2006) of the European supermajors—BP, Shell and Total.¹ These companies—and the words of their CEOs—are critical in the global debate on climate change, shaping much of the business-climate change discourse (Levy 2005). CEO-speak refers to instances in which CEOs communicate publically on behalf of their organization, for instance through corporate reports, in the media, during speeches at industry conferences, universities, and so forth. Situating our study within a critical-interpretivist discourse analysis tradition (Fairclough and Wodak 1997; Mumby 1987), we are interested in how the European supermajors’ CEO-speak obfuscates tensions between climate change and their core business of producing and selling fossil fuels (see also Putnam et al. 2016, p. 109). To conceptualize this process, we draw from the concept of organizational mythmaking—a symbolic act that simplifies complexity and legitimates the views of the mythmaker (Boje et al. 1982; Brown 1994; Filby and Willmott 1988; Wright and Nyberg 2014).

Our findings illustrate how the construction of three myths—the *techno-fix*, *Promethean oil man*, and *climate partnerships*—facilitate defensive responses that act to either entrench well-established understandings and practices that are themselves environmentally harmful, or

transfer tension from the source of the problem (i.e., the production of fossil fuels) to external actors such as the government or civil society organizations. We demonstrate how, by avoiding sustainability tensions through organizational mythmaking the European supermajors become increasingly embedded into a self-referential myopia that limits their potential to imagine an alternative energy future that is likely discordant with the myths they themselves construct. This has significant ethical implications: defensive responses not only help the supermajors evade responsibility to address climate change but also marginalize alternative discourses, including those groups who identify with these discourses.

Our study contributes to literature on paradox and corporate sustainability by illustrating how sustainability tensions are actively avoided through symbolic action (i.e., mythmaking). Rather than expose the “bizarre” contradiction between fossil fuel-based growth and climate change mitigation (Wright and Nyberg 2015a, p. 28), we show how this contradiction is repressed. The implications of this repression are potentially devastating for the natural environment, not to mention corporate performance, hence our title: “Drilling their own graves.”

Organizational Paradox and Corporate Sustainability

Responses to tensions, contradictions, and paradoxes regarding sustainability are generally conceptualized in three ways: acceptance, confrontation, and avoidance. Firstly, in terms of acceptance, actors acknowledge paradoxes as unsolvable puzzles that are part of everyday existence (Poole and van de Ven 1989; Smith and Lewis 2011). Without opposition toward tensions per se, managers improvise when confronted, thereby avoiding the difficulties and risks of attempting a controlled resolution. The paradox is left open; Pandora’s box remains shut (Beech et al. 2004). With corporate sustainability, acceptance strategies may be effective on an individual level (Ivory and Brooks 2017). However, on an organizational level, acceptance strategies are arguably less effective given that organizations could face, inter alia, legitimacy threats from stakeholders with contending views. These stakeholders may enforce a “moral minimum” (e.g., Idemudia 2008, p. 94), insisting organizations fulfill certain affirmative duties such as providing a safe work environment. Such moral considerations become further pronounced within the public sphere in the case of large, multinational firms operating in developing countries, which “are simultaneously challenged by a multitude of [...] issues and environmental demands are characterized

¹ The term “supermajors” was coined by Doug Terreson, Managing Director and Head of Energy Research at Morgan Stanley to refer to the newly formed BP-Amoco prior to the two companies merging in 1998. The term, which first appeared in an issue of Business Week (1997) became increasing popular after further mergers, notably between Exxon and Mobil in 1999. There are six supermajors—BP plc, Chevron Corporation, ExxonMobil Corporation, Royal Dutch Shell plc, Total SA and Eni SpA. These are considered the six largest non-state owned oil and gas companies by total revenue (Gensler 2017).

by high dynamism, complexity, and heterogeneity” (Scherer et al. 2013, p. 275).

The second conceptualization involves firms proactively confronting sustainability tensions (Lewis 2000; Vince and Broussine 1996). As indicated by Poole and Van de Ven (1989), this can be achieved either by *separating* or *synthesizing* tensions. On the one hand, in terms of the former, tensions are rendered manageable by compartmentalizing conflicting poles (Smith and Lewis 2011). At extremes, entire organizations split to better manage tensions. E.ON, one of Germany’s “Big 4” energy providers, for example severed its fossil fuel and renewables businesses, forming two separate entities (Timperley 2016). On the other hand, when proactively responding to paradox by *synthesis*, tensions are forged into a new form, understood as complex interdependencies rather than contradictions (Jarzabkowski et al. 2013). For instance, in their study of the Alberta oil sands, Slawinski and Bansal (2015) highlight how some firms, instead of polarizing short- and long-term perspectives, creatively juxtaposed them to better manage temporal tensions related to climate change. This is indicative of “paradox thinking”—a cognitive frame that fosters accommodation of conflicting yet inter-related sustainability dimensions (Hahn et al. 2015; Kannothea et al. 2017). Paradox thinking is akin to Gao and Bansal’s (2013, p. 247) “integrative” approach to managing social and environmental issues, which applies an ethical orientation “achieved by fulfilling conflicting responsibilities, in one’s best capacity, with compassion and sympathy.”

A third conceptualization widely undertheorized in the sustainability literature concerns a defensive strategy whereby paradox is avoided (Lewis 2000; Smith and Berg 1987). Here, scholars draw from Freudian psychoanalytic theory to demonstrate how individuals respond defensively in tension-laden and anxiety-provoking situations (Dey et al. 2016). A defensive response or mechanism refers to “any policy or action that prevents someone (or some system) from experiencing embarrassment or threat, and simultaneously prevents anyone from correcting the causes of the embarrassment or threat” (Argyris 1993, p. 40). Typical examples include, among others, shifting blame toward a scapegoat or repressing unpleasant emotions and thoughts (Vince and Broussine 1996). This is counterproductive given that, in the long term, avoidance intensifies complexity, creates vicious cycles, and produces negative feedback loops (Smith and Lewis 2011). Avoiding tensions also has serious ethical ramifications as is evidenced by corporate scandals such as WorldCom and Tyco in which managers developed pathological obsessiveness with commercial objectives at the expense of moral concerns (Hall et al. 2007). Indeed, as Treviño and Brown (2004, p. 74) suggest, this type of behavior led to the downfall of professional services firm Arthur Andersen: “[the]

leadership’s earlier commitment to ethics came to be drowned out by the firm’s increasing laser-like focus on revenues.” However, when a firm’s core business is under threat, it may be left with little choice but to employ a defensive response—irrespective of ethical ramifications. For instance, as illustrated by Iivonen’s (2017) study of Coca-Cola’s engagement with the issue of obesity, the beverage company engaged in projection as a defense mechanism in order to justify its business model.

On the whole, the studies discussed tend to focus on productive aspects of embracing sustainability tensions (the first and second conceptualizations) over unproductive defensive responses, as the third conceptualization highlights. How these defensive responses facilitate avoidance of sustainability tensions must be further explored, particularly given that sustainability issues such as climate change pose high levels of complexity, threatening to overburden firms (Levy and Lichtenstein 2011). Many firms find it difficult, if not impossible, to embrace sustainability tensions because their core product inevitability results in *trade-offs* between economic and environmental concerns (Hahn et al. 2010). This is clearly the case with the fossil fuel industry, whereby surrendering to a zero-sum game between fossil fuels and climate change would be deemed by some stakeholders as “throwing in the towel.” Therefore, shunning or manipulating sustainability tensions is arguably likely; it is well evidenced that firms sometimes expend substantial resources to influencing stakeholder perceptions through impression management strategies to appear engaged with sustainability issues (Hooghiemstra 2000; van Halderen et al. 2016). However, an impression management lens does not suffice to explore paradox avoidance given that it mostly concerns the deliberate manipulation of stakeholder perceptions, which contrasts with the type of reactive defensive responses provoked by sustainability tensions (Hahn et al. 2014). These responses may not only prompt serious legitimacy issues (Wright and Nyberg 2015b), but could also incite unethical behavior as, by avoiding sustainability tensions, employees often fail to act on sound moral judgment, or worse, as top management teams develop “ethical blindness” (De Klerk 2017; Palazzo et al. 2012; Treviño and Brown 2004). Therefore, a lens that specifically addresses the types of defensive responses that are triggered to avoid complexity, including the *effects* of employing such responses, is necessary. To conceptualize this process, we draw from the concept of organizational mythmaking, which incorporates aspects of all the three responses discussed above.

Organizational Mythmaking

The use of myth in organization studies has a long-standing pedigree (Boje et al. 1982; Brown 1994; Filby and Willmott 1988; Ganzin et al. 2014), playing a particularly significant role in understanding climate change (Farmer and Cook 2013, p. 445; Hulme 2009, p. 340). While the concept of mythmaking has been employed in several ways, we draw largely from Barthes' (1972) seminal *Mythologies* in which he conceptualizes myths as fulfilling a dual function, both acting as a mechanism that produces shared meaning and as a means to legitimate existing power structures (see also Filby and Willmott 1988). Applied to the context of organizations, myths manifest in the symbols—e.g., logos, rituals, slogans, brands, stories—that, as Putnam (1983, p. 40) argues, are “not simply reflections of organizational meanings; they are ongoing processes that constitute organizational life.” Mythmaking thus constructs meaning structures necessary to foster shared understandings within and between organizations and their external stakeholders (Boje et al. 1982).

Mythmaking is most salient in times of complexity when organizations face problems without easily identifiable solutions (Boje 1991). As Barthes explains (1972, p. 143), “[myth] abolishes the complexity of human acts, it gives them a simplicity of essences, it does away with all dialectics, [...] it organizes a world without contradictions because it is without depth.” When reasoning fails to establish a sense of order, myth becomes a symbolic device that misrepresents situations as somehow unambiguous, thereby “constructing a rationalizing façade” (Brown 1994, p. 871). Generally, the less that is known about a social context and the higher the perceived threat, the more extreme the myth given the need to rationalize higher levels of complexity (Bottici and Challand 2006). Sustainability poses high levels of complexity given that it often confronts organizations with sets of multiple conflicting, contradictory tensions that must be dealt with simultaneously (Devinney 2009; Hahn et al. 2014).

Myths may in some instances be reactive, used to create simplified mental maps that assuage anxiety stemming from confronting the unknown. Organizations sometimes engage in this type of mythmaking about climate change and sustainability. This is evidenced by technologies such as carbon capture and storage or geoengineering being touted as a climate change panaceas, despite (currently) being economically unviable, technologically impractical and, as with geoengineering, morally dubious. Nyberg and Wright (2014, p. 205) in particular have drawn from this perspective to illustrate how myths perpetuate a capitalist imaginary of “rationality” and “efficiency,” which they argue “absorb and adapt the critique of corporate

capitalism while enabling ever more imaginative ways of exploiting nature.”

Along with reducing complexity, several studies address the *legitimation* function of myth. For instance, mythmaking functions to legitimate certain organizational specialisms, such as public relations (Filby and Willmott 1988) or management consulting (Clegg et al. 2004). Brown (1994) draws from this notion of myth as legitimating tool to illustrate how members of an organization gained acceptance for a new product launch that benefitted the interests only of an elite group within the organization. Indeed, legitimation through the production of myth is intrinsically linked to power as mythmaking often serves to conceal the political interests of powerholders: “myths not only create, sustain, and legitimate historical, current and future action, but also shape and conceal political interest and permit organizational actors to rationalize difficult and complex phenomena” (Brown 1994, p. 863).

Indeed, myth is traditionally framed as a mechanism that obscures, used to explore, among other social phenomena, class struggles (Cassirer 1973). As myths represent certain narratives as “truth,” they exclude the political interests of those deemed less significant or those at odds with dominant myths. This highlights a more oppressive function of mythmaking, raising concerns regarding the moral obligation of the mythmaker as myths are used in the pursuit of legitimating a social order that favors those groups in power (David 2001; Gehmann 2015). This function of mythmaking concerns the way myths, when enacted, have certain discursive effects (Brown 2005; Clegg 1989). On the one hand, mythmaking may become self-fulfilling as mythmakers begin to act according to their own narratives. As Brown (2003, p. 108) suggests: “[myth] encourages feelings of omnipotence and fantasies of control among significant stakeholder groups.” On the other hand, the myth-consumer becomes embedded within a predetermined identity that aligns with the interests of the mythmaker (Bottici and Challand 2006). This highlights how myths tend to reproduce, in codified forms, relations of domination (Burrell and Morgan 1979; Clegg 2013).

Overall, mythmaking and the way organizations respond to sustainability issues correspond: sustainability issues provokes complex situations that lack readily deployable solutions while myths provide a “veil” that rationalizes and reduces complexity. Indeed, focusing on organizational mythmaking demonstrates both the agency of firms as somewhat “aware” of the often irreconcilable tension between sustainability dimensions and core business objectives, and that the relationship between dimensions may be obfuscated. Therefore, mythmaking offers a fruitful lens through which to conceptualize defensive responses to sustainability tensions, and may also shed light on a “darker side” of avoiding sustainability tensions, including

ethical implications which remain currently underexplored in the literature on sustainability and paradox. We therefore pose the following questions: how does mythmaking facilitate defense mechanisms that avoid sustainability tensions? How does mythmaking determine corporate responses to sustainability issues such as climate change?

Context

This study is set in an “extreme context” (Eisenhardt and Graebner 2007): the controversial relationship between multinational oil and gas companies and climate change (Du and Vieira 2012). The oil and gas industry is uniquely controversial, compared to other contested industries—such as the fur, tobacco, or gambling industries—given our dependence on fossil fuels (Bhattacharyya 2009). Oil and gas companies are critical actors in the global debate on climate change and have played an important role in shaping much of the business–climate change discourse (Levy 2005). These firms hold a vast resource base, particularly in terms of technology and financial power that, depending on their allocation, could greatly benefit the fight against climate change (Levy and Kolk 2002; Stevens 2016). Furthermore, besides their own production processes—i.e., the energy needed to extract, refine, and transport oil and gas—these firms’ core product *is* fossil fuels, which makes up a substantial proportion of total greenhouse gas emissions (IEA 2016a). As such, taking into account environmental disasters such as spills, oil and gas companies are often scrutinized by a wide variety of publics and given the “classical role as the villains of climate change” (Lovell 2010, p. xii). This has conversely led to increasing efforts, especially by environmental groups and ethical investors, to stigmatize the fossil fuel industry (Durand and Vergne 2015; Ferns and Gunther 2017). As Ansar et al. (2013, p. 65) argue: “the outcome of this stigmatization process [...] poses a far-reaching threat to fossil fuel companies and the vast energy value chain. Any direct impacts pale in comparison.”

Given pressure from publics and other stakeholders such as civil society organizations and investors (MSCI 2014; Paun et al. 2015), alongside increased regulatory changes (Peeters and Uylenburg 2014, p. 181), oil and gas companies have responded to climate change through a process that has varied over time and differs among individual companies (van Halderen et al. 2016). We chose to analyze BP, Shell, and Total, or the companies referred to as European supermajors (see footnote 1), given that they have publically engaged with climate change for a longer period of time than US supermajors, largely quiet climate change until very recently (Goldenberg 2015; Pulver 2007).

Data and Analytic Strategy

Our dataset comprises the European supermajors’ CEO-speak (Amernic and Craig 2006, 2007), which refers to a CEO’s public speeches, letters to stakeholders in sustainability reports, and media interviews/contributions (see “Appendix”). As illustrated in Table 1, while a variety of audiences are addressed through CEO-speak, most of our corpus concerns CEO speeches at oil and gas industry conferences and CEO letters in sustainability reports. Hence, our data set both “looks in” as CEOs speak to their own industry about climate change, and “looks out” by addressing wider stakeholder groups.

This type of data is commonly utilized to analyze corporate disclosures about sustainability related issues (Beelitz and Merkl-Davies 2011; Mäkelä and Laine 2011; Tengblad and Ohlsson 2009; van Halderen et al. 2016). CEOs are often seen as “the social face of the organization” and, particularly in the case of fossil fuel companies, engage publically in justifying their firms’ actions in light of climate change (Brennan and Conroy 2013, p. 176). A CEO’s words are important and carry a certain clout; CEO-speak can be considered as texts “which leave meaningful traces” (Phillips et al. 2004, p. 640). As argued by Mäkelä and Laine (2011, p. 219), CEO-speak not only “reflect[s] organizational culture and values but also [has] broader cultural and political significance [as CEOs] participate in the processes through which societies come to frame and understand phenomena, such as environmental challenges, sustainable development and corporate responsibility.”

Indeed, the words of top management are considered emblematic of the entire organization as opposed to representing the CEO’s personal beliefs (David 2001). While CEO-speak may to a certain degree be “doctored” by public relations professionals (see Amernic and Craig 2013, p. 381), this is less important than the fact that stakeholders perceive the CEO’s words as reflective of the organization’s stance on social and environmental issues (Craig and Amernic 2004). Hence, although CEO-speak may not represent the views of all members of an organization per se, especially if that organization is large, CEO-speak remains a useful representation of an organizational culture (Palmer et al. 2004). Similar to how CEO-speak “talks into being” an organization’s culture (Brown 1994), so does CEO-speak construct the myths that constitute an organizational culture. Indeed, as Boje et al. (1982, p. 18) suggest: “myths [...] represent one way in which other elements of organizational culture are conceptually organized into a system of organizationally relevant logic.”

Our dataset concerns texts from 1997 to 2015. We selected 1997 as a starting point given that this was the first

Table 1 Audience coverage per data source

Audience	Speech	Count	Text	Count
Oil and gas industry	Industry conferences and events (e.g., Oil and Money Conference; Voser 2010b)	61	Specialist industry press (e.g., Hayward in The Oil Daily 2009)	2
Policy and government	Think tanks and research centers (e.g., Brookings Institute; Browne 2005a)	25		
	Government event (e.g., The Communist Party of China; Voser 2012c)			
Business	Business events and leadership fora (e.g., Hayward at Business Leaders' Summit; in Fildes 2007)	24	Business press (e.g., Interview with Wall Street Journal; Hayward in Chazan 2009)	24
			Contributions in business press (e.g., article written for FT; Browne 2002c)	
University	Business school (e.g., London Business School; Hayward 2010a)	15		
	University center or initiative (e.g., Oxford Energy Seminar, Oxford University; Dudley 2013c)			
General stakeholder			CEO letter in sustainability report (e.g., van der Veer 2008a)	51
Public			Media contributions and interviews in general press (e.g., Interview with Telegraph; de Margerie in Mason 2010)	26
Total		125		103

time an oil and gas supermajor—BP in this case—publically acknowledged the need to address climate change (Lovell 2010). We concluded our dataset at the end of 2015 given that the Paris Agreement was signed—a monumental moment that signaled a potential shift in the fossil fuel–climate change debate (Vidal and Vaughan 2015). After 2015, fossil fuel companies have been much less explicit about climate change strategy, which largely revolves around waiting for governments to implement the Paris Agreement (Kinley 2016). Texts were primarily selected by downloading sustainability reports and CEO speeches from the respective corporate websites and using Factiva and Google newspaper searches for media interviews and newspaper contributions. Online searches also directed us to speeches that were not listed on each company's corporate Web site, but were available on third-party sites or represented as extracts in media articles. Documents that were not available on corporate websites but publically available at some point in time such as previous sustainability reports were requested by sending email requests to the communications departments of each company. In total, we collected 228 texts (see “Appendix”).

We adopt a critical-interpretivist approach to the study of mythmaking (Bowles 1989; Boyce 1996; Mumby 1987). Our understanding of myth is largely inspired by interpretivist work on organizational symbolism (Brown 1994; Dandridge et al. 1980; Pondy et al. 1983), which aligns with the constructivist underpinnings of most paradox research (Jarzabkowski and Lê 2015; Smith and Lewis

2011). Furthermore, we consider mythmaking and the defensive responses constituted therein as having certain *discursive effects* (Fairclough and Wodak 1997). This is particularly useful for our study given that a critical-interpretivist approach emphasizes the formative role of myth in shaping the very context it seeks to represent (Boje et al. 2004; Fairhurst and Putnam 2004). In other words, the way that supermajors talk about climate change creates a (mis)representation of reality that, when performed, determines their response to climate change.

Our data analysis process followed three phases. The first involved a thematic analysis adapted from previous work on narrative and myth in organizational studies (Ganzin et al. 2014; Hardy and Maguire 2010; Humphreys and Brown 2007). Accordingly, we used qualitative data analysis software (NVivo) and engaged in an open coding strategy to identify particular narrative structures—e.g., plot, the protagonist or hero, journey, end goal or destination, enabling/disabling forces, events, and coherent identities (Boje 2001)—that the supermajors used to address their relationship with climate change (Strauss and Corbin 2007). This process resulted in an array of first-order codes reorganized based on overlaps with other similar codes (e.g., *efficiency*, *innovation*, *technology*) and then grouped them into second-order themes (i.e., *the techno-fix*, *Promethean oil man* and *climate partnerships*). At this point we noticed that each myth contained distinctive contradictions seemingly re-casted by the supermajors as somehow strategically beneficial. This led us to

Table 2 Overview of main findings

Myth	Defense	Function	Illustrative quotes
Techno-fix	Regression	Disregard tensions	<p>"I believe behavior and technology can do that for us, and we need to be in a position of demonstrating that there are answers to this tradeoff which make it possible for people to have a good lifestyle without damaging the environment." (Browne in Minnesota Public Radio 2002)</p> <p>"In 100 years, there should be more renewables. Is it good? If we can make progress. One of the concerns is a cost. Today we all know the most economical fuel is oil" (de Margerie in Mason 2010)</p>
Promethean oil man	Fantasy	Divert tensions	<p>"We are responding to the challenge of sustainable development and to the expectations and needs of people. Sustainable solutions support sustainable businesses, and I'm convinced that's good for the economic, environmental and social progress of our planet-and for us" (van der Veer 1999)</p> <p>"Behind these big numbers you find a story of human progress. Reliable and affordable sources of energy can help to improve many things, from living standards to life expectancy" (Dudley 2012a)</p>
Climate partnership	Projecting	Displace tensions	<p>"Governments specify their energy mix through royalties, taxation levels and permitting requirements. [...] Once the government decides, our responsibility is to be one of the lowest CO₂ operators for this source of energy" (van der Veer 2006b)</p> <p>"By working in partnership with resource-rich countries we aim to create wealth for them too by providing the energy for the basic things of life, such as heat, light and mobility. I believe that is a noble cause." (Hayward 2007a)</p>

the second phase of analysis in which we focused specifically on utterances that responded to contradictory elements. During this stage, we began to oscillate between the literature on paradox defenses and the data. Through an abductive approach, we abstracted from the data to identify and categorize the most salient defensive responses within each myth. Finally, during the third phase of analysis, we were concerned with the extent to which the supermajors' limited engagement regarding climate change was determined by the effects of mythmaking. Here, we were interested in how, by enacting organizational myths about climate change, the supermajors reproduce their dominant power position within the global climate governance regime (Levy and Newell 2005). We thus identified discourses furthered through the supermajors' mythmaking that propagate status quo practices of extracting, producing, and marketing fossil fuels.

Findings

In this section, we demonstrate how three myths constructed by the supermajors—techno-fix, Promethean oil man, and climate partnerships—facilitate the avoidance of sustainability tensions through certain defense mechanisms (see Table 2). First, we discuss each myth individually, highlighting the form of each myth and how its associated defense mechanism acts to disregard, divert, or displace sustainability tensions. Second, we demonstrate two discursive effects of mythmaking—marginalization of alternative discourses and evading responsibility for addressing

climate change—to illustrate how the supermajors' responses to climate change are shaped.

The Techno-Fix Myth

The supermajors place significant emphasis on the virtues of science, human ingenuity and technology as the means to address climate change and "reach for the prize of clean, green fossil fuels" (van der Veer 2005a). Through the techno-fix myth—the most dominant myth in our dataset as illustrated in Fig. 1²—an anthropogenic notion of "managing" the natural environment is propagated, with CEO-speak often referring to the merits of engineering expertise: "[...] technology can do that for us, and we need to be in a position of demonstrating that there are answers to this trade-off which make it possible for people to have a good lifestyle without damaging the environment" (Browne in Minnesota Public Radio 2002). Certain

² Figure 1 provides a basic descriptive illustration of each myth's coverage based on different types of organizational audiences. We calculated coverage by using NVivo's word frequency analysis feature. This involves searching for a collection of terms within a selection of texts—'coverage' (expressed as %) refers to the amount of times a term is identified relative to the total words within the text(s) analyzed. Five terms were used for each myth; these stemmed from the keywords identified during our coding process (Techno-fix myth = technology, efficiency, innovation, science, engineering; Promethean oil man myth = economic growth, human progress, poverty, prosperity, living standards; Partnership myth = partnership, NGO, United Nations, government, environmental group). In cases where words within a given text were not those of a CEO (e.g., in newspaper articles during an interview), these were omitted to ensure only CEO-speak was counted.

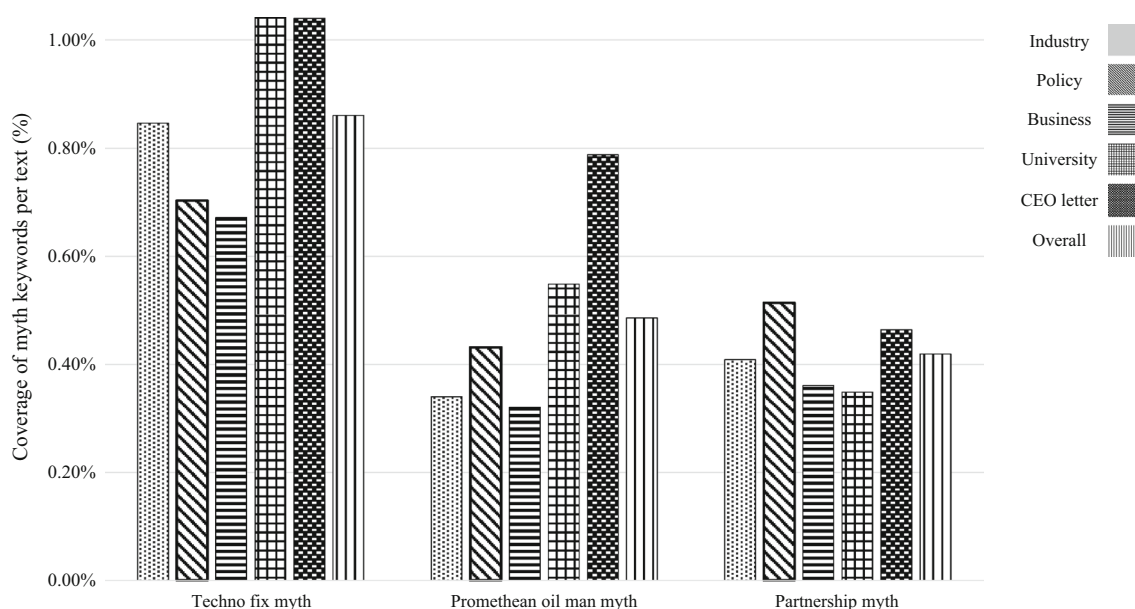


Fig. 1 Coverage of myths and target audience

technologies such as carbon capture and storage (CCS) or liquefied natural gas (LNG) are framed as all-encompassing climate change solutions. In this regard, as evidenced in Total’s 2014 CEO letter, the European supermajors often suggest that LNG “is set to become the world’s transitional fossil fuel” (Pouyanné 2014a). Such a grand and generalized statement that oversimplifies an otherwise complex reality acts to provide the “silver bullet” for the supermajors to “deal” with climate change. This cause-and-effect rationality is a cornerstone of the techno-fix myth as Voser’s (2012a) speech title exemplifies: “The natural gas revolution: a secure, abundant force for good.”

The techno-fix myth represents nature as something to be *valued* in economic terms—i.e., putting nature on a balance sheet and accounting for the negative impacts of the oil and gas extraction, refinement and transportation process. As such, much of the CEO-speak regarding this myth is managerial, expressed through rational rhetorical appeals (*logos*). As Total’s CEO, de Margerie, asserts in an interview with the Telegraph: “In 100 years, there should be more renewables. Is it good? If we can make progress. One of the concerns is a cost. Today we all know the most economical fuel is oil” (Mason 2010). Accordingly, climate change is not portrayed as a uniquely distinct consideration that impedes the overall strategy of the organization. Instead, controlling for the effects of climate change becomes a concern that can be effectively managed within the parameters of standard business practices such as, *inter alia*, cost-benefit analysis.

As highlighted in Fig. 1, the techno-fix myth is most discernable when CEOs address students at universities. A good example of this is Tony Hayward’s (2010a) speech to

London Business School in which the then BP CEO explained: “[the] first conclusion is that, in all circumstances, energy efficiency is the No.1 priority. That means more efficient vehicles, buildings and electronic appliances—more investment in technology and infrastructure such as smart grids.” There is no denial of climate change or apologetic tone: climate change is faced head on and techno-fix solutions are swiftly offered. BP’s environmental concerns are made to fit with business-as-usual through language of managerialism and risk, and not vice versa. This reduces the threat posed by climate change by dismissing the need to radically overhaul economic systems or firm practices (e.g., Klein 2014).

Defense Mechanism 1: Regression

Underpinning the techno-fix myth is the unwillingness of the supermajors to depart from long-established practices, despite professing the need to change those practices in order to adapt to climate change in the future. Therefore, the techno-fix myth facilitates regression whereby historical accounts are used to legitimate present action and future intent. For example, Shell’s Peter Voser in a speech at the Woodrow Wilson Center in 2009 entitled “The Energy Company of the Future” stated: “[we’ve] learned from experience—sometimes the hard way—that it takes time to develop and build a market for new types of energy. That is why a more efficient use of energy is crucial.” By reemphasizing certain past realities as “truths”—in this case regarding the virtues of markets and technology—“solving” climate change becomes reliant on habits that, somewhat paradoxically, caused climate change in the first

place. Moreover, historical figures are often invoked to demonstrate that challenges these figures faced were inevitably overcome, implying that the same will occur with climate change. That is, CEOs frequently use “historical theorizations of change” in a rhetorical sense “to counteract radical change and to promote evolutionary or path-dependent change” (Suddaby and Greenwood 2005, p. 52). For example, Shell’s Moody-Stuart (2000) recollects challenges of the railway age: “gas developments have much in common with the beginning of the railway age in Britain as engineers like Robert Stephenson and Isambard Kingdom Brunel struggled to carry the railway tracks over waterways.” Similarly, BP’s Bob Dudley (Dudley 2013a) likens the climate change crisis to earlier energy challenges that were overcome: “The world’s major source of oil in the 1850s was the whale. But as many species were hunted to near-extinction, Colonel Edwin Drake decided to look for a new source. His success in drilling a well in Titusville, Pennsylvania gave birth to the modern energy industry.”

Promethean Oil Man Myth

The supermajors consider themselves noble upholders of modern civilization, providing “the energy for the basic things of life, such as heat, light and mobility” (Hayward 2007a). This is reminiscent of the ancient Greek myth of Prometheus, a Titan who not only helped humans stand upright but also famously provided them with fire stolen from the gods (Dryzek 1997). The crux of this myth is demonstrated by Dudley’s (2013b) speech at Deendayal Petroleum University, India, in which he asserted that access to BP’s energy “represents millions of people moving out of poverty, into homes and jobs, enjoying heat, light and mobility to improve their lives. Here in India, I know, access to energy really transforms lives.” The “transformational” role of energy, and the industry’s role as providing the impetus to lift people out of poverty, rationalizes the supermajors’ position. Indeed, as de Margerie (2012) emphasized in Total’s CSR Report: “Without access to energy, there is no development.”

A central theme in the construction of this myth is the risks that supermajors’ undertake to access “energy”, confronting and “controlling” nature (Lovelock 2010) in the process much like Prometheus confronting the gods. This is often highlighted by the common narrative of successfully drilling in ultra-deep water. In a speech at the Arab Strategy Forum in Dubai, Shell’s van der Veer (2006a) explained: “[...] the industry has a good record of meeting these kind of environmental challenges. We only have to look back thirty years ago to when the conditions in the North Sea were seen by many as too hostile for successful development.” Van der Veer anchors deep into the

past to demonstrate how Shell has successfully confronted and resolved difficult challenges, in this case regarding a hostile nature able to be “overcome”.

In the construction of this myth, the supermajors often draw on ideographs (McGee 1980), or “god terms” that appeal to a common good and are generally considered appropriate by a wide set of audiences—e.g., rights, development, progress, growth, and prosperity. A particularly important ideograph is “energy,” a frequently used synecdoche, or a figure of speech, representing “oil and gas.” In this vein, BP’s Browne (2004a), at a speech at the Princeton Environmental Institute remarked:

Can we transcend what appears to be a harsh and unacceptable tradeoff between the goal of improving living standards – and on the other hand the equally imperative goal of protecting the natural environment which sustains human life? Energy is at the heart of that tradeoff.

The emptiness in the term “energy” in this case symbolically transcends the trade-off between living standards and environmental protection. In other words, as Browne (2004a) notes, unavoidable trade-offs are displaced by the principal task of securing “energy.” What exactly “energy” constitutes is somewhat irrelevant; what is important is only that it is secured. Another commonly used ideograph is “responsibility,” often employed in reference to a higher purpose, as illustrated in Thierry Desmarest’s (2002) CEO letter: “Corporate spirit and a sense of responsibility are closely linked.” Interestingly, the promethean oil man myth is especially prevalent in the CEO’s letter in sustainability reports (see Fig. 1), which may allude to the particularly emotional rhetorical appeal (*pathos*) in sustainability reports as compared to traditional annual reports (e.g., Castelló and Lozano 2011).

Defense Mechanism 2: Fantasy

A fantasy of omnipotence, immortality and prestige is the defense mechanism driving the Promethean oil man myth. Through this fantasy, the supermajors imagine themselves as *the* answer to climate change, arguing that despite being its cause, they are concurrently the most likely solution, possessing “financial muscle and technical expertise to help take their ideas from the lab to demonstration level and then to commercial scale” (Voser 2010a). The grandiosity of such claims helps escape the harsh reality that fossil fuels and climate change are indeed irreconcilable, which is evidenced by the frequent recalling of exaggerated heroic acts, as Tony Hayward reminiscences: “The oil and gas we’re developing in deepwater Gulf of Mexico requires the same kind of technology it takes to put someone on the moon” (in Chazan 2009). This reflects a

fantasy of omnipotence, linking BP with superhuman, nostalgic feats such as the moon landing, thereby obscuring the reality that their core product and mitigating climate change are, in fact, irreconcilable. Through such “moral tales” (Leeuwen and Jacob 2007, p. 105), the supermajors further entrench their self-proclaimed role as noble upholder of modern civilization. For instance, in a speech at the European Conference of Environmental and Engineering Geophysics Tony Hayward (2007a) argued: “[...] when it comes to dealing in a timely and practical manner with the great insecurities of the early 21st century, the energy industry is not just part of the solution, it is the solution.”

A fantasy defense mechanism constructs an “other” framed as the reason for the supermajors’ continued carbon-intensive practices: those without “fire” in developing countries, so to speak. As de Margerie (2007, p. 2) described:

Global energy demand is going to remain strong, because developing countries lag far behind industrialized nations. How can you justify dashing the hopes of the billion and a half people in the world who don’t have electricity, or crushing the aspirations of people who want to own a car in China or India, where there’s only one car per 50 or 100 inhabitants, compared with one for every two people in the West?

This implicitly pits “dashing the hopes of the billion and a half people” against preserving the natural environment, making it seem somehow unethical to discredit the industry. The Promethean oil man myth thus operates on the fantasy of supermajors as poverty eradicators, deflecting attention from the issue at hand: climate change.

Climate Partnerships Myth

When confronted with climate change, the European supermajors frequently posit that such environmental issues can only be successfully addressed by partnering with actors not traditionally associated with the oil and gas industry—e.g., civil society organizations and governments. As these actors possess a pre-established credibility, projecting has the additional rhetorical appeal of validating the character (*ethos*) of the European supermajors through association with authority (see Vaara et al. 2006, p. 799). For example, as Total’s Desmarest argued: “[...] we are working with the other stakeholders and in partnership with governments, which are the only organizations with the authority to set the policy orientations that frame our initiatives.” Not only do supermajors acknowledge a need to partner and engage in dialog, they also embrace a need to be held accountable by external stakeholders, or as Voser asserted: “We at Shell [...] must not be shy to open up to

scrutiny” (Voser 2011a). Of course, this is based on voluntary reciprocity: There are no hard laws committing either party to action.

The industry’s relationship with the state is approached through partnerships, as Voser (2012b) during a speech to policy makers at the World Water Forum, explains:

We need partnerships that marry the commercial expertise of the private sector. We need partnerships that remain impartial, and that don’t fall under the influence of one interest group. And we need partnerships that make a tangible impact on the policy-making process

Governments are therefore imagined as necessary to the commercial viability of investing in a low-carbon future, which usually takes the forms of either providing subsidies for energy efficient technology investments, or developing carbon trading platforms such as the EU emissions trading system (EU-ETS). In a speech to the Singapore Energy Summit, Voser (2011b) asserted: “Government has an important role in setting *the* rules, in spurring investment in new technologies that may not see a payoff for many years. Rather than choose winners and losers, government should set the end goals, then provide appropriate incentives that let the market determine the most effective solutions.” This shifts the onus of responsibility from the supermajors to governments; after all, as Shell’s van der Veer commented in a Guardian interview, “Governments need business to help [...] but it is not Shell who can solve the CO₂ problem in the world” (in Macalister 2007).

Defense Mechanism 3: Projecting

By underscoring the role of external organizations as necessary to addressing climate change, the climate partnerships myth employs a projective defense mechanism. Here, responsibility to address climate change is relocated from the source of the problem—i.e., fossil fuels extracted from the ground—to external sources. Thereby, tensions stemming from a zero-sum game between fossil fuels and climate change are placed onto the transnational climate policy community, NGOs, national governments, and consumers. Interestingly, despite shifting responsibility to external sources, the supermajors do not completely discredit the ideal of free markets. As Hayward (2007a) of BP described: “History firmly suggests that all these problems are susceptible to action and innovation. This process can be aided or hindered by the way in which governments perform their role of policy making and the enactment of law.” As such, “action and innovation” is “aided or hindered” to the extent that they are efficiently regulated by governments. Based on this logic, if climate change is not adequately addressed, it is not the fault of the supermajors’

actions or lack thereof, but because they were not properly regulated by an external (responsible) party.

The production of tar sands, often considered particularly carbon intensive (Crooks 2015), vividly illustrates this defense mechanism. As van der Veer (2006b) explained in an interview: “Governments specify their energy mix through royalties, taxation levels and permitting requirements. [...] Once the government decides, our responsibility is to be one of the lowest CO₂ operators for this source of energy.” Because responsibility is not internal—i.e., the supermajors will not self-regulate their production of tar sands—ecological concern is relocated from tar sands producers to “governments, NGOs, and other critical stakeholders” (Voser 2011c).

Discursive Effects of Avoiding Tension Through Mythmaking

As illustrated above, the above myths construct defensive responses that avoid the contradiction between being a fossil fuel company and engaging in climate change mitigation. There are two particularly noteworthy effects: (1) marginalizing alternative discourses through regression and entrenchment in the past; (2) evading responsibility for addressing climate change by transferring tension away from the source of the problem. We show that through these effects, the supermajors foreclose the possibility of substantive action to mitigate climate change.

First, by entrenching tensions deeper into past understandings the supermajors reinforce certain “truths” that, over time, marginalize discourses that do not conform to these “truths.” This exemplified most noticeably in the techno-fix and Promethean oil man myths. For example, regarding the techno-fix myth, the supermajors exhibit a near obsession with measurability in which addressing climate change can only be achieved with increased efficiency, better performance, and risk–benefit evaluation. Browne (1997) in his famous speech at Stanford remarked: “[...] we need a better understanding of how our own emissions of carbon can be monitored and controlled, using a variety of measures including sequestration. It is a very simple business lesson that what gets measured gets managed.” Any investment that could address climate change must be proven under this rubric. As such, significant investment in renewables, for example, becomes particularly difficult because there are too many “unknowns” that cannot be necessarily be calculated, proven, or measured (Levy and Lichtenstein 2011). Even if initiatives *do* conform to this “ideology of numbers” (Chelli and Gendron 2012), such as pricing carbon through financial markets, they tend to reproduce the obsession with measurability, since carbon markets are themselves predicated on discourses of measurability (Böhm et al. 2012). Therefore, the

supermajors become trapped by their fixation with measurability, which in turn excludes alternative discourses that cannot be easily quantified such as deep ecology or systems thinking (Devall 1991; Williams et al. 2017).

This narrow identification with the past reproduces an over-reliance on organizational practices that are not suitable for addressing large-scale environmental issues. Furthermore, using preexisting accounting tools and calculation metrics to account for the risks of climate change reinforces the objectification, and ultimately reification, of nature (Mäkelä and Laine 2011). Because the supermajors are entrenched into past habits of measurability, the natural environment is consequently stripped of its intrinsic properties and presented as an object to be valued, as de van der Veer (2009a) nonchalantly notes in his key note speech at the 10th International Oil Summit in Paris: “Mother Nature put it there, and we take it out.”

Notwithstanding measurability, as detailed in the discussion of the defense mechanism of regression in relation to the techno-fix myth, analogies that emphasize notable historical figures are frequently employed to legitimate modern-day practices. While these accounts produce a strong nostalgic association with industry’s heroes from past, they likewise reproduce a hegemonic masculinity that is pervasive in the oil and gas industry (e.g., Miller 2004). Winston Churchill is frequently used by BP in this manner:

That’s the challenge. So what are we doing? First, we’re investing in the next generation of oil and gas resources around the world. Winston Churchill once said that security in oil came from a diversity of supply. That was right in 1915—when, incidentally, he was a shareholder in BP on behalf of the government, some 50 percent—and it is right right now (Browne 2005a)

In this instance, during a speech at the Brookings Institution, BP’s John Browne refers to the climate “challenge” as similar to a situation that Churchill, at the time serving as First Lord of the British Admiralty, faced when he proposed that the British naval fleet switch from domestic coal to BP’s oil. This draws attention not to innovative practices that could combat climate change, but to past successes and similar challenges faced by patriarchal, historical figures.

The second discursive effect of mythmaking concerns how the supermajors shun responsibility for addressing climate change by transferring tension away from the source of the problem—i.e., the extraction and production of fossil fuels. This occurs most saliently with the Promethean oil man myth and with the climate partnership myth. In terms of the former, rather than focus on the realities of climate change, the supermajors assert a need to

“take care” of people from “resource-rich countries” who “need food, housing and all the other basic products and services” (Browne in Mahony 2004). This neocolonial sentiment misrepresents developing countries as necessarily impoverished and somehow inferior without basic services such as electricity, lost without the help of the supermajors. Therefore, the supermajors scapegoat those at “the bottom of the energy ladder” (van der Veer 2007a) for continued demand for fossil fuels. As Voser (2011d) asks: “Hundreds of millions more will emerge from energy poverty in the coming years, buying their first fridge, computer or car. What will all this mean for overall energy use?” From a psychoanalytic perspective, this is common with projection defenses—blame is usually transferred from those who dominate, toward their weaker subordinates (Oliver et al. 2008).

A similar picture unfolds with the climate partnership myth as responsibility for solving climate change is transferred to external parties. There is, after all, little need to pursue alternative energy sources or invest substantially in carbon reduction technologies when responsibility to solve climate change becomes that of the state or energy consumers. This disregard for considering alternatives is further enforced through the patronizing tone that permeates much of the CEO-speak, particularly during the typically unscripted Q&A portion of speeches. CEOs often insist that challengers “face the facts” and be “realistic.” As de Margerie argues: “It will be ages before carbon-neutral energy sources overtake fossil fuels [...]. Admitting that doesn’t mean we’re somehow irresponsible; rather, it means we’re facing the facts and using them to develop actionable, real-world solutions” (de Margerie 2008a). Our interpretation of such statements is that de Margerie considers himself, and presumably his European supermajor counterparts, as somehow more knowledgeable about climate change compared to those who challenge the industry, framed as somehow “unrealistic.” Conversely, de Margerie’s bravado may be considered a mask that represses his own insecurities regarding the complexities of climate change vis-à-vis the fossil fuel industry.

In sum, it is evident that left with little choice, the supermajors have engaged extensively in organizational mythmaking. This is facilitated by defensive responses that obfuscate much of tension stemming from complexities associated with climate change. In terms of the discursive effects of enacting these myths, the conclusion we draw is that it seems increasingly unlikely that the supermajors would fully engage in large-scale climate change mitigation.

Discussion

The motivation for this study arose from the generally productive tone of corporate sustainability studies that use a paradox lens to argue that sustainability dimensions should be embraced, even if they seem contradictory (Gao and Bansal 2013; Hahn et al. 2014, 2015). Most of this literature seemed to overlook that a “paradox approach” would be difficult to implement in industries where trade-offs between economic and environmental concerns are unavoidable (Wright and Nyberg 2015a). This led us to base our study on fossil fuel companies, asking what these companies do upon being confronted with what ex-BP CEO Lord Browne refers to as an “existential threat” to the oil and gas industry: climate change (Clark 2014). In this respect, we demonstrate how the European supermajors have, over time, reconstituted climate change as something they embrace. Indeed, it is more difficult to discredit those organizations that seem to embrace that for which they are being discredited. Below we discuss some of our study’s main contributions to the literature on tensions and corporate sustainability, and reflect on the ethical implications of our findings.

While most studies on corporate sustainability tensions focus on how embracing tensions can have particularly powerful effects if properly harnessed, we detail how avoiding tensions may also have powerful—albeit undesirable and unsustainable—effects. Although capitalizing on paradox can “[lead] to creative solutions to complex problems such as sustainability” (Van der Byl and Slawinski 2015, p. 59), it can also have the reverse effect in terms of reinforcing an “instrumental logic” (Gao and Bansal 2013). This occurred in the case of the supermajors as tensions between economic growth and environmental protection were obfuscated through mythmaking to appear *as if* sustainability is at the heart of these companies, without necessarily being so at all. As such, we propose that the literature on tensions within corporate sustainability seriously consider instances in which the idea of embracing contradictory sustainability dimensions is misused or even abused to reproduce the status quo.

Our findings question the extent to which integrative perspectives on sustainability can and should be pursued in cases where trade-offs between sustainability dimensions are inevitable (Margolis and Walsh 2003). While an integrative sustainability perspective certainly appeals conceptually and in certain cases also operationally, its allure as a “transcendental” form of sustainability can be (mis)appropriated by firms. Few studies in the corporate sustainability literature have explicitly addressed such a defensive response to tensions. To our knowledge, the only empirical study to do so is Iivonen’s (2017) account of how

Coca-Cola engages in a projection defense to deflect responsibility for obesity issues. Interestingly, the author calls for further research in this area by emphasizing that: “Attention must therefore be paid to such situations in further developing the integrative view in the less-than-ideal world in which powerful organizations and industries, controversial or not, do not easily cease to exist” (Iivonen 2017: forthcoming). We addressed this call in many ways by focusing on the “less-than-ideal world” of a fossil fuel economy, building on Iivonen (2017) both by considering additional defense mechanisms (i.e., *regression* and *fantasy*), and by emphasizing the discursive effects of defensive responses.

Our study does not neglect that there may be many other cases that illustrate the creative, productive and synergistic potential of a paradox approach to sustainability (Hahn et al. 2015; Jay 2013). However, there is a potential danger in not critically distinguishing between, for instance, the way cross-sectoral social partnerships between firms, governments and NGOs adopt a paradox approach to harness the tension between competition and collaboration (Stadtler 2017), and how fossil fuel companies can use paradox instrumentally to distort tension between their core product and climate change. While the former might enhance “coopetition” (Garud et al. 2002), the latter only reproduces practices that pose an imminent threat to the well-being of the Earth system (IPCC 2014). This raises valid concerns regarding, for instance, notions of the justice, equity and morality of perpetuating a fossil fuel energy system by distorting complexities of climate change. From a deontological perspective, do the supermajors not have a duty to reduce the harm its products are causing to humanity and the natural environment? After all, as Desmond Tutu (2014) remarked, the negative impact of human activity on the Earth system is both “the human rights challenge of our time [and] a deep injustice.” That climate change may result in significant devastation for societies, especially those in the Global South (Hallegatte et al. 2011), raises serious concern as to the moral integrity and *duty* of the mythmaker—in this case, fossil fuel companies. Hence, we suggest that more research consider how the “dark side” of managing paradox may be covering up practices that are in breach of basic ethical principles.

More generally, this study also contributes to the organization studies literature on tensions, contradictions, and paradox (Putnam et al. 2016; Schad et al. 2016). We extend current theory by exploring defensive responses as constructed through organizational mythmaking (Boje et al. 1982; Brown 1994; Filby and Willmott 1988; Ganzin et al. 2014). Indeed, paradox literature suggests that defensive

responses, such as those identified in this study, are only effective in the short-term as tensions inevitably resurface (Smith and Lewis 2011; Vince and Broussine 1996). Therefore, organizational paradox scholars might reject our emphasis on how mythmaking is used to avoid tensions longer term. However, mythmaking is not a *pure* avoidance strategy. Indeed, as Barthes (1972, p. 143) notes: “Myth does not deny things, on the contrary, its function is to talk about them; simply, it purifies them, it makes them innocent, it gives them a natural and eternal justification.” While the supermajors’ responses were certainly constructed in a defensive manner, they were *proactively* employed through mythmaking as a symbolic act of purification, simplification, and justification over time. Mythmaking thus involves confronting paradox by actively obfuscating tensions in such a way that their anxiety-provoking tendencies are rendered impotent.

As per the famous war adage “the best defense is a good offence,” our findings suggest that the best way to avoid tensions may be, in some cases, to actively distort them. This does not conform to the traditional divide between defensive and proactive responses as advocated by most paradox research (Lewis 2000). Instead, depending on the situation in which the response unfolds, coupled with the intent of the actor constructing the response, defensive and proactive strategies potentially complement one another. Jarzabkowski and Lê (2015, p. 37) for instance hint toward this possibility by exploring the role of humor as a way to construct responses to paradox, illustrating how “at the micro-level, all responses are in their own way ‘active’ responses.” Similarly, in our study, defensive responses were also actively constructed; however, our case differs given that defensive responses continued to repress rather than expose tensions, with dangerous consequences for the planet. By avoiding sustainability tensions, the supermajors are increasingly entrenched in a single option reality where “the future becomes beholden to the past” (Smith and Lewis 2011, p. 291). The fossil fuel industry’s refusal to substantively engage with sustainability tensions is considered by some to be detrimental to the industry itself (Mckibben 2012), as evidenced by a recent Chatham House report—*International Oil: Companies The Death of the Old Business Model* (Stevens 2016).

Ultimately, we show that paradox can be actively constructed in such a way that it becomes as strategic resource (e.g., Hardy et al. 2000). In this context, there are serious ethical implications as tensions between business and the natural environment—and nature itself—are used as means to an end, the “end” in this case being shareholder value. In addition, that nature possesses any sort of intrinsic worth

is rejected. Irrespective of these ethical concerns, that paradoxes are purposefully molded and taken advantage of is not frequently discussed in the literature. This process, or what Czarniawska (1997) calls “deparadoxification,” places a somewhat different light on paradox since the friction that a paradox perspective cites as the trigger for organizational change becomes suppressed and skewed to align with the interest of its manipulator (Reay and Hinings 2009; Townley 2002). In many respects, particularly from a political economy perspective, climate change is inherently contentious and should arguably remain so (Witneben et al. 2012). Therefore, corporate discourses on climate change that are stripped of contentiousness are arguably less likely to provoke any sort of large-scale change. We highlighted how mythmaking was used to mask contradictions and to propagate the status quo, therefore fostering inaction on climate change. As Benson argues (1977, p. 8), without contradiction there is no “continuing source of tensions, conflicts, and the like which may, under some circumstances, shape [...] action to change the present order.”

Our final contribution underscores the use of myth as a means to examine corporate discourses on environmental issues (e.g., Wright and Nyberg 2014). The explicit use of myth in studies of organization and management theory has lost its prominence, arguably given that myth is already incorporated into contemporary theory as its “cultural component,” for example, among others, considering the way that organizations resemble “rationalized myths” *à la* Meyer and Rowan’s (1977) seminal piece on institutional theory. However, myths are representative of deeply ingrained sociopolitical ideas and practices that, through their dramaturgy, evoke an emotional response difficult to capture an overt focus on myth as an analytically distinctive construct. By using a myth lens we avoid considering communication, on the one hand, a mere rhetorical tool (van Halderen et al. 2016), and on the other, as purely constitutive (Christensen et al. 2013). Myth instead considers strategic and constitutive forms of communication as mutually informative. That is, not only did the supermajors produce myths about climate change, but they were also constituted by the myths they themselves created (Brown 2006). As illustrated, this dual function of myth has certain discursive effects that not only marginalizes alternative discourses, but also constrains their ability to adapt to climate change.

In all, mythmaking is particularly useful to exploring issues such as climate change as probable solutions (e.g., “de-growth” or ecological preservation) often run counter to dominant myths that have existed since the

enlightenment period; e.g., human ingenuity and our superior dominance over all that is non-human (Dryzek 1997). Mythmaking provides organizations with a means to construct a narrative that might seem to overcome tensions between economy and ecology, while actually being “empty”: “[myth] is, literally, a ceaseless flowing out, a hemorrhage, or perhaps an evaporation, in short a perceptible absence” (Barthes 1972, p. 142). The “emptiness” of the myths produced by the European supermajors is evidenced by overwhelming reliance on consequentialist claims that the use of fossil fuels is morally justified because of some benefit to the greater good (especially the Promethean oil man myth). However, what is considered “good” for society, what is considered harmful, and what group in society should benefit, is exclusively defined by BP, Shell and Total’s own teleological views. It almost solely benefits the utility of the supermajors, not those of marginalized groups in society because, after all, less-advantaged members of society will likely be most burdened by climate change (Hallegatte et al. 2011). Thus, it should be earnestly questioned whether the utilitarian justification used by the European supermajors—i.e., that fossil fuels produces more good for society than harm—remains valid especially as alternative energy becomes increasingly viable (Carrington 2017; IEA 2016b).

Limitations, Future Research, and Conclusion

Our study has certain limitations. First, our focus on BP, Shell, and Total omits other companies that due to differences in size, status, and location, might construct other types of myths about climate change. However, we selected these companies given their notorious status as the villains of climate change, as evidenced for example by the stigmatization efforts of several publics (Ansar et al. 2013; Ferns and Gunther 2017). There are other fossil fuel companies that depending, for example, on their location, would construct their defensive responses differently within their corporate disclosures. For instance, a study that compares US supermajors—Exxon and Chevron—to European supermajors may yield interesting insights (van Halderen et al. 2016).

Furthermore, our focus on CEO-speak excluded many voices both internal and external to the organization. Due to the unwillingness of many oil industry representatives to speak about climate change as is common in controversial industries (Lindgreen et al. 2012), CEO-speak was a necessary focus. Ideally, however, for future studies, it would be useful to gain access to employees that work “on the

front lines,” in order to explore how micro defensive responses are constructed to address situational complexities related to environmental concerns (e.g., Sharma and Jaiswal 2017). As such, while CEO-speak lays a foundation for understanding defensive responses on an organizational level, future work should consider the construction of paradox on operational levels.

Lastly, by basing our case on fossil fuel companies we emphasized an extreme case despite there being other cases in which trade-offs may not inevitability occur. As such, our case might not be generalizable to other sectors. For example, low resource intensive sectors such as the financial services or certain high-tech sectors might not experience the near impossibility to adapt to climate change, depending on the extent to which their stakeholders demand they do (Williams 2014). However, industries that are not necessarily fossil fuel based but implicated as such, e.g., air transport and livestock production, might similarly at some point also engage in the construction of defensive responses, thus presenting an opportunity for future research.

Nevertheless, it is evident from our study that the European supermajors reproduce their own inability and unwillingness to substantively address climate change. On the one hand, this is especially worrying because of the

catastrophic implications of climate change if unaddressed. On the other hand, it seems inevitable that in continuing constructing and enacting myths about their relationship with climate change, BP, Shell, and Total are, in effect, drilling their own graves. The deeper they drill, the more difficult it is to envision alternatives and capitalize on those opportunities

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no competing interests.

Ethical Approval This article does not contain any studies with human participants performed by any of the authors.

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Appendix

Corporate reports			Media articles and interviews			Speeches		N*
BP	Shell	Total	BP	Shell	Total	BP	Shell	Total
1997	Shell annual report (Shell 1997)		New Statesman interview (Browne in Ghazi 1997)	Financial Times interview (Herkstroeter in Corzine 1997)		Stanford University (Browne 1997)		8
			NYT interview (Browne in Ibrahim 1997)			Bundestag, Berlin (Browne in Coonan 1997)		
			Financial Times interview (Browne in Boulton 1997)			Greenpeace Business Conference (Browne in Lean 1997)		
1998	Environmental and social review (Browne 1998a)	The Shell report (Herkströter 1998)	Washington Post interview (Browne in Hamilton 1998)	Independent interview (Moody-Stuart in Harrison 1998)		Alaska Support Industry Alliance (Browne in Rosen 1998)	Institute of Chartered Accountants (Moody-Stuart in Patten 1998)	9
						Johns Hopkins School of Advanced International Studies (Browne 1998)		
						World Energy Congress (Browne 1998c)		
						Yale School of Management (Browne in Cowell 1998)		
1999	Environmental and social review (Browne 1999)	The Shell report (Moody-Stuart 1999)			RTL Radio interview (Desmarest in Reuters News 1999)	Economic Club of Detroit (Browne in Evanoff 1999)	Global Sustainable Energy Fair, Sustain 99 (van der Veer 1999)	7
						National Environmental Research Council (Browne in Mitchell 1999)		
						American Association of Petroleum Geologists Conference (Browne in Griffin 1999)		

Corporate reports				Media articles and interviews			Speeches		N*
BP	Shell	Total		BP	Shell	Total	BP	Shell	Total
2000	Environmental and social review (Browne 2000a)	The Shell report (Moody-Stuart 2000)					Conference on Corporate Social Responsibility (Browne 2000b) National Petrochemical and Refiners Association (NPRA) Annual Meeting (Browne in Brideau 2000) World Petroleum Congress (Browne in Pike 2000)		5
2001	Environmental and social review (Browne 2001)	The Shell report (Watts 2001)						Shell's "Long Term Energy Scenarios" (Watts in Mitchell 2001)	3
2002	Environmental and social review (Browne 2002a)	The Shell report (Watts 2002)	CSR report (Desmarest 2002)	NYT interview (Browne in Frey 2002) Minnesota Public Radio interview (Minnesota Public Radio 2002) FT interview (Browne in Buchan and Buck 2002) Media contribution FT (Browne 2002c)			Chatham House (Browne in Garten 2002) Stanford University (Browne 2002b)	Chatham House speech, London (Philip Watts 2002)	10
2003	Sustainability report (Browne 2003a)	The Shell report (van der Veer 2003a)	CSR report (Desmarest 2003)		Interview, NYT, (Watts in Becker 2003)		Speech to Institutional Investors Group (Browne 2003b)	Shell Center for Sustainability at Houston's Rice University (van der Veer 2003b) World Gas Conference Tokyo (Watts 2003a) Council for Foreign Relations (Watts 2003b)	8

Corporate reports			Media articles and interviews			Speeches		N*
BP	Shell	Total	BP	Shell	Total	BP	Shell	
2004 Sustainability report (Browne 2004b)	The Shell report (van der Veer 2004a)	CSR report (Desmarest 2004)	Financial Times interview (Browne in Boxell and Hoyos 2004)	Financial Times interview (Browne in Veer in Catan 2005)	Financial Times interview (van der Veer in Catan 2005)	Toronto's Empire Club (Browne in Mahony 2004) Speech at the Taplin Environmental Lecture (Browne 2004a)	Oil & Money conference (van der Veer 2004b)	7
2005 Sustainability report (Browne 2005b)	The Shell sustainability report (van der Veer 2005b)	CSR report (Desmarest 2005)	Financial Times interview (Browne in Harvey 2005) CNBC interview (Browne in CNBC 2005) Daily Telegraph interview (Browne in Sylvester 2005)	Financial Times interview (Browne in Harvey 2005) CNBC interview (Browne in CNBC 2005) Daily Telegraph interview (Browne in Sylvester 2005)	Financial Times interview (van der Veer in Catan 2005)	Brookings Institute speech (Browne 2005a) European Union Energy Security Conference speech (Browne in Dow Jones 2005b) International Economics in Washington (Browne in Dow Jones 2005a) World Petroleum Congress Johannesburg (Browne in Hopson 2005) OTI I DEFAA Conference, Cafe Royal, London, UK (Browne 2005c)	International Oil Summit in Paris (van der Veer 2005a)	13
2006 Sustainability report (Browne 2006a)	The Shell sustainability report (van der Veer 2006b)	CSR report (de Margerie 2006)	Interview with Sunday Telegraph (Pfeifer 2006)	NYT interview (van der Veer in Mouawad 2006)	NYT interview (van der Veer in Mouawad 2006)	International Petroleum Week (Browne in Fields 2006) Columbia University (Browne in Burnham 2006) Anchorage industry luncheon (Browne in Rosen 2006) Massachusetts Institute of Technology (MIT) (Browne 2006b)	Cambridge Energy Research Associates conference (van der Veer 2006c) Arab Strategy Forum (van der Veer 2006a) 23rd World Gas Conference, Amsterdam (van der Veer 2006d)	12

Corporate reports				Media articles and interviews			Speeches		N*
BP	Shell	Total	BP	Shell	Total	BP	Shell	Total	
2007	Sustainability report (Hayward 2007b)	The Shell sustainability report (van der Veer 2007b)	Environment and society report (de Margerie 2007)	Editorial (Browne in WSJ 2007) Interview with FT (Hayward in Crooks 2007)	Interview in Guardian (van der Veer in Macalister 2007)	WSJ commentary (de Margerie in Gold and Davis 2007)	Berlin Business Leaders' Summit (Hayward in Fildes 2007) EAGE Annual Conference—London EXCEL Centre (Hayward 2007a)	Café Crossfire Evening Debate (van der Veer 2007a) International Petroleum Week Dinner (van der Veer 2007c) St Gallen conference, St Gallen, Switzerland (van der Veer 2007d) Symposium on Sustainable Solutions for Africa, Delft University of Technology (van der Veer 2007e)	13
2008	Sustainability review (Hayward 2008a)	The Shell sustainability report (van der Veer 2008a)	Environment and society report (de Margerie 2008a)	Interview in Guardian (Hayward in Macalister 2008)	NYT interview (van der Veer in Mouawad 2008)	Washington International Renewable Energy Conference (Hayward in The Oil Daily 2008) World Petroleum Congress (Hayward in Polezer 2008) Delivering Energy for Sustainable Growth—Tsinghua University, Beijing (Hayward 2008b) HRH Prince of Wales's 3rd Annual Accounting For Sustainability Forum, London (Hayward 2008c)	EastWest Institute, "Shell scenarios for the 21st century" (van der Veer 2008b) International Energy Forum in Rome (van der Veer 2008c) IUCN World Conservation Congress (van der Veer 2008d)	World Petroleum Congress (Dow Jones International News 2008) Conference on World Security, Geneva (de Margerie 2008b)	14

Corporate reports				Media articles and interviews				Speeches		N*
BP	Shell	Total		BP	Shell	Total		BP	Shell	Total
2009 Sustainability review (Hayward 2009a)	Royal Dutch Shell plc Sustainability Report (Voser 2009a)	Environment and society report (de Margerie 2009)		Commentary in FT (Hayward in Crooks 2009)	Press conference (van der Veer in Schneyer 2009)	Interview in FT (de Margerie in Hoyos 2009)		Cambridge Energy Research Associates (Hayward in The Oil Daily 2009)	10th International Oil Summit, held in Paris (van der Veer 2009a)	Offshore Europe Conference, Aberdeen, Scotland (Henshall and Adams 2009)
				Interview with Wall Street Journal (Hayward in Chazan 2009)	Commentary in Globe and Mail (Voser 2009c)			Latin American Energy Conference (Hayward in Campbell and Woodall 2009)	14th Asia Oil and Gas Conference in Kuala Lumpur (van der Veer 2009b)	World Gas Conference (de Margerie in Dow Jones Energy Service 2009)
				Interview with IOD (International Oil Daily 2009)	Interview in Guardian (Voser in Webb 2009)			World Gas Conference (Hayward in Reuters News 2009)	Washington DC (Voser 2009b)	
								Oil & Money conference (Hayward 2009c)	Global Economic Roundtable at Spruce Meadows (Voser in Ross 2009)	
								World Oil and Gas Assembly, Bangalore (Hayward 2009b)		

Corporate reports				Media articles and interviews			Speeches		N*
BP	Shell	Total	BP	Shell	Total	BP	Shell	Total	
2010	Sustainability review (Hayward 2010b)	Environment and society report (de Margerie 2010a)	Interview in Guardian (Hayward in Macalister 2010)	Wall Street Journal Interview (Murray and Strassel 2010)	Commentary in Reuters (de Margerie Reuters 2010)	London Business School (Hayward 2010a)	The Wall Street Journal's ECO-nomics conference in Santa Barbara (Voser 2010d)	United Nations Special Representative of the Secretary General on Business and Human Rights, Paris, France (de Margerie 2010b)	23
			Interview in FT, (Hayward in Crooks 2010)		Interview with Telegraph (de Margerie in Mason 2010)	Peterson Institute, (Hayward 2010c)	St. Gallen Conference (Voser 2010e)	International Oil Summit in Paris (International Oil Daily 2010)	
						House of Commons, London (Hayward 2010d)	21st World Energy Congress in Montreal (Voser 2010f)		
						Academy of National Economy, Moscow (Hayward 2010e)	Oil and Money Conference in London (Voser 2010b)		
							Fortune Global Forum, Cape Town (Voser in Wearden 2010)		
							London Business School Global Leadership Summit (Voser 2010a)		
							The Central Party School of the Communist Party of China Beijing (Voser 2010g)		
							Delft University of Technology (Voser 2010h)		
							Sijthoff lecture, Amsterdam (Voser 2010i)		

Corporate reports				Media articles and interviews			Speeches		N°
BP	Shell	Total	BP	Shell	Total	BP	Shell	Total	
2011	Sustainability review (Dudley 2011a)	Royal Dutch Shell plc Sustainability Report (Voser 2011e)	Environment and society report (de Margerie 2011)	Commentary in Guardian (Hayward in Finch et al. 2011)	WSJ commentary (de Margerie in Herron 2011)	Tsinghua University, China (Dudley 2011b)	Cambridge Sustainability Leadership Programme Alumni Reunion, London, UK (Voser 2011d)	CERA Conference, Houston, USA (de Margerie in The Oil Daily 2011)	23
					WSJ interview (de Margerie in Amiel 2011)	Energy Outlook 2030, St James Square, London (Dudley 2011c)	Shell Annual Reception, London, UK (Voser 2011a)	CERA Conference, Houston, USA (de Margerie in The Oil Daily 2011)	
							Singapore Energy Summit (Voser 2011f)		
							Harvard Business School Club of the Netherlands and the Ivy Circle, The Hague, Netherlands (Voser 2011g)	Chamber of Commerce, Calgary, Canada (de Margerie in Polczer 2011)	
							Alumni of Harvard, IMD, INSEAD, Rochester Business Schools, Zurich, Switzerland, (Voser 2011h)	Asia Oil and Gas Conference, Kuala Lumpur, Indonesia (de Margerie in International Oil Daily 2011)	
							2011 Channing Corporate Citizenship Award (Voser 2011c)		

Corporate reports				Media articles and interviews			Speeches		N*
BP	Shell	Total		BP	Shell	Total	BP	Shell	
2012	Sustainability review (Dudley 2012a)	Royal Dutch Shell plc Sustainability Report (Voser 2012d)	CSR report (de Margerie 2012)	Interview with CNN (Dudley in Quest 2012)	Commentary (Voser in Reuters News 2012)		BP Energy Outlook 2030, London (Dudley 2012b)	Central Party School, The Communist Party of China, Beijing (Voser 2012c)	15
							Greater Cleveland Partnership speech, Cleveland, US (Dudley 2012c)	6th World Water Forum, Marseille, France (Voser 2012b)	
							Abu Dhabi Speech—"New times, new thinking" (Dudley 2012d)	25th World Gas Conference, Kuala Lumpur, Malaysia (Voser 2012e)	
							International Petroleum Week, London, UK (Dudley 2012e)	31st Annual CERA Week Executive Conference (Voser 2012a)	
							Economic Club of Chicago (Dudley 2012f)		
2013	Sustainability review (Dudley 2013d)	Royal Dutch Shell plc Sustainability Report (van Beurden 2013)	CSR report (de Margerie 2013)	Interview in Wall Street Journal (Dudley in Jenkins 2013)	Wall Street Journal interview (Gold 2013)	Interview, RTL Radio (de Margerie in Reuters News 2013)	WACA Conference, Washington DC, (Dudley 2013e)	Central Party School, Beijing (Voser 2013a)	15
							Oxford Energy Seminar, Oxford University, UK (Dudley 2013c)	International Petroleum Technology Conference, Beijing (Voser 2013b)	
							Canada Europe Energy Summit, London (Dudley 2013a)	Chief Executives Club of Boston (Voser 2013c)	
							Pandit Deendayal Petroleum University, Gujarat, India (Dudley 2013b)	Oil and Money Conference, London, UK (Voser 2013d)	
								World Energy Congress 2013 Daegu, South Korea (Voser 2013e)	

Corporate reports			Media articles and interviews			Speeches			N*
BP	Shell	Total	BP	Shell	Total	BP	Shell	Total	
2014	Sustainability review (Dudley 2014a)	Sustainable growth report (Pouyanné 2014a)		Financial Times, interview (van Beurden in Chazan 2014) Interview in Reuters (van Beurden in Kemp 2014)		International Petroleum Exhibition & Conference, Abu Dhabi (Dudley 2014b) Oil & Money conference, London, UK (Dudley 2014c) World Petroleum Congress (Dudley 2014d)	Global Energy Policy at Columbia University (van Beurden 2014b) Centennial celebration, Shell Technology Centre (van Beurden 2014c)	Keynote speech at Kuwait Oil and Gas Show, Kuwait: OPEC (Pouyanné 2014b)	11
2015	Sustainability review (Dudley 2015a)	Integrating climate into our strategy (Pouyanné 2015)	Interview, CNBC (Dudely in Cosgrave 2015)	Statement in FT (van Beurden in Crooks 2015) Interview in Guardian (van Beurden in Macalister and Carrington 2015)		World Gas Conference, Paris (Dudley 2014e) Mexican Energy Reform Summit (Dudley 2015b)	Quest Carbon Capture and Storage speech (van Beurden 2015b) OPEC International Seminar (van Beurden 2015c)	World Gas Conference, Paris (Pouyanné in Kent and Landauro 2015)	11
N*	18	19	25	17	8	63	51	13	228

* N = number of texts

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